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July 22, 2009

TO: Each Supervisor

FROM: Jonathan E. Fielding, M.D., M.P.H. *JE/af*  
Director and Health Officer

SUBJECT: **INITIATIVE TO PROMOTE PUBLIC HEALTH IN LAND USE AND  
TRANSPORTATION PLANNING**

This is to inform you that the Department of Public Health (DPH) is launching an initiative to work with local cities and communities to promote public health considerations in city general plan updates and other land use and transportation planning activities. This is an extension of the collaborative work DPH has done with the Department of Regional Planning over the past two years, as reflected in the County's draft General Plan update. In addition, this work will support the 2009 County Strategic Plan (Goal 4, Strategy 2): "Create a physical environment that is conducive to good health by encouraging and enabling all Los Angeles County residents to make healthy choices about their diet, physical activity, and other behaviors."

Heart disease, stroke, cancer, and diabetes are among the leading causes of premature death and disability in the county population. In addition, the obesity epidemic threatens to further increase the burden of chronic disease in the county. Research indicates that the risk for chronic disease is strongly influenced by the built environment--that is, the ways communities are designed and land is used. Building bikeways, sidewalks, and parks, for example, has been shown to increase physical activity levels, thereby reducing risks for heart disease, stroke, diabetes, depression, and some forms of cancer. Likewise, increasing access to fresh produce and other healthy food options can reduce chronic disease risks by leading to more healthy eating habits. Designing communities in ways that reduce auto dependence and vehicle miles traveled can reduce air pollution, thus reducing the burden of asthma, other respiratory disease, and heart disease. Reducing the density of alcohol outlets has been shown to decrease rates of violence and alcohol dependence in communities.

To address the important connection between the built environment and health, DPH will continue to work closely with County Regional Planning, Parks and Recreation, and Public Works departments in the unincorporated areas. In addition, DPH will expand its focus to include the 88 cities in the county. Given limited resources, DPH will prioritize its work by

focusing on the cities and unincorporated areas with the greatest need (measured by obesity and chronic disease rates and characteristics of the built environment) and where there are opportunities for action (e.g., a general plan is being updated or some other land use policy, plan, or project is being considered). This initiative will include participation in community planning activities, responding to requests for information on the built environment and health, and providing public health input and data to planning commissions and other decision-making bodies.

The selected group of approximately 30 DPH staff working on this initiative will receive specialized training and resources, including a toolkit consisting of educational materials and resources for collaborating with cities and communities on built environment issues. The toolkit will also include a set of talking points that describes important land use and community design principals and the public health rationale for each. Attached are the talking points and several related articles from the toolkit.

If you have any questions about this initiative, please contact me.

JEF:ps

Attachments

c: Chief Executive Office  
Acting County Counsel  
Executive Officer, Board of Supervisors

**Healthy Planning Talking Points**  
**L.A. County Department of Public Health**

## **Introduction**

The health of individuals, families, and communities is strongly influenced by the built environment—that is, the ways communities are designed and land is used. For example, improving access to bike lanes, sidewalks, and parks has been shown to increase physical activity levels, thereby reducing risks for heart disease, stroke, diabetes, depression, and some forms of cancer. Likewise, increasing access to fresh produce and other healthy food options can reduce chronic disease risks by leading to more healthful eating. Designing communities in ways that reduce auto dependence and vehicle miles traveled can reduce air pollution, thereby reducing the burden of asthma, other respiratory disease, and heart disease. Reducing the density of alcohol outlets has been shown to decrease rates of violence and alcohol dependence in communities.

Cities have primary oversight in land use practices and policies in their jurisdictions. County government has this authority for the unincorporated areas of the county. California law also specifies opportunities for community residents and other stakeholders to provide input in land use decision-making processes. Given the important connections between the built environment and health, the Department of Public Health has a strong interest in ensuring that health considerations are incorporated into these decision-making processes.

The following “Healthy Planning Talking Points” have been developed to assist the Department in providing input in land use planning and policy decisions. This input could take several different forms, including providing written or oral testimony before a planning commission or other decision-making body, participating in a community planning process, or responding to an individual request for information. In providing public health input, however, it is important to recognize that many factors in addition to health may be considered by cities and the County in making land use and community design decisions. Therefore, these talking points should not be considered absolute dictates but, rather, should be considered as recommendations for improving health that are offered to help inform the decision-making process. Their intended use is for Public Health staff designated by the Department to provide input into land use planning forums. The document is not designed to be used as a handout for external audiences. The Department’s PLACE Program is currently developing a brochure and has other materials that can be used as a handout.

A training will be scheduled for staff who will be using this document to ensure that they are well prepared to provide input on land use planning and that this input includes consistent messaging. When staff are participating in a land use planning process, they will be required to inform the Office of External Relations and Communications through their chain of command. Questions regarding the Talking Points should be directed to Jean Armbruster in the PLACE Program: 213-351-7313.

# 1. Walkable and Bikeable Communities—Neighborhoods with safe, attractive, and accessible streets encourage people to walk and bike to local destinations.

Safe sidewalks and bike lanes that are connected to businesses, schools, transit, and recreational areas encourage people to walk or bike to popular destinations. Substantial health benefits can be achieved with as little as 30 minutes of moderate physical activity each day, which can be done in short, 10 minute intervals. Increasing the amount that people exercise daily – even moderately – can reduce their risk of chronic disease. Safety is a key element of walkable, bikeable communities. Safe streets can reduce pedestrian and bicyclist injuries and crime prevention can be enhanced through design elements such as good lighting.

## Desirable Elements of Walkable, Bikeable Communities:

- Create streets that are accessible to all people irrespective of age and accommodate diverse levels of abilities (e.g., those in wheelchairs, the elderly and children).
- Time traffic signals to allow adequate crossing time for all people to safely reach the other side and install pedestrian islands or curb extensions to shorten the crossing distance.
- Make long blocks more walkable by creating mid-block crosswalks.
- Create wide sidewalks and keep them in good repair; add sidewalks in communities without them; and require sidewalks in new developments.
- Design new communities with grid blocks to make it easier to get from one point to another (as opposed to cul-de-sacs).
- Slow traffic on busy streets though traffic calming measures that deliberately reduce vehicle speeds, such as installing medians and roundabouts, and narrowing or reducing the number of lanes on a road.
- Reduce crime by placing doors and windows so that they look onto streets; providing sufficient street lighting; and keeping foliage trimmed.
- Create safe walking routes and bike lanes between residential areas and schools, commercial areas, employment centers, and transit stops.
- Connect diverse communities with walking paths, bike lanes and transit.
- Place bike racks at popular destinations.
- Provide climate-appropriate landscaping and street furniture (benches, etc.) to make walking more appealing.
- Locate retail, job centers, schools and transit in close proximity to residential areas so residents can easily get around without a car.

## Resources

### Policy Briefs

- Active Living Research. (2008). *Designing for active living among adults research summary*. [www.activelivingresearch.org/files/Active\\_Adults.pdf](http://www.activelivingresearch.org/files/Active_Adults.pdf)
- Active Living Research. (2007). *Designing for active living among children research summary*. [www.activelivingresearch.org/files/Built\\_Design.pdf](http://www.activelivingresearch.org/files/Built_Design.pdf)
- Active Living Research. (2009). *Walking and biking to school, physical activity and health outcome research brief*. [www.activelivingresearch.org/files/ALR\\_Brief\\_ActiveTransport.pdf](http://www.activelivingresearch.org/files/ALR_Brief_ActiveTransport.pdf)
- Local Government Commission: Center for Livable Communities. *Why people don't walk and what city planners can do about it*. [http://www.lgc.org/freepub/docs/community\\_design/focus/plan\\_to\\_walk.pdf](http://www.lgc.org/freepub/docs/community_design/focus/plan_to_walk.pdf)

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- Casteel, C. & Peek-Asa, C. (2000). Effectiveness of crime prevention through environmental design (CPTED) in reducing robberies. *American Journal of Preventive Medicine*, 18(1), 99-115.
- Frank, L.D., Schmid, T.L., Sallis, J.F., et al. (2005). Linking objectively measured physical activity with objectively measured urban form. *American Journal of Preventive Medicine*, 28 (252) 117-125.
- Retting RA, Ferguson SA, McCart AT: (2003) A review of evidence-based traffic engineering measures designed to reduce pedestrian-motor vehicle crashes. *American Journal of Public Health*, 93(9):1456-1463.

### Websites

- Active Living By Design: <http://www.activelivingbydesign.org/>
- Active Living Research: <http://www.activelivingresearch.org/>
- Center for Disease Control and Prevention – Healthy Places <http://www.cdc.gov/healthplaces/>
- Centers for Disease Control and Prevention – Guide to Community Preventative Services for Physical Activity: <http://www.thecommunityguide.org/pa>
- Local Government Commission – Center for Livable Communities <http://www.lgc.org/center/>
- Public Health Law & Policy – Planning for Healthy Places <http://www.healthypolicy.org/>

Note: These Talking Points are intended for internal use by LA County Department of Public Health Area Health Officers or select, trained staff.

## 2. Green Space—Green space offers residents a place for recreation and outdoor relaxation.

Many communities in L.A. County lack sufficient green space, as over 1.5 million children do not live within walking distance to a park. Access to green space provides opportunity for physical activity and social gathering, while enhancing the beauty of neighborhoods. Green space can positively impact physical and mental health, filter runoff, and help replenish the water table.

### Desirable Elements of Green Space:

- Provide for a variety of green space, including squares, public parks, pocket parks, community gardens, active alleys, green corridors, recreation facilities, and landscaped trails/walkways.
- Locate green space within walking/biking distance of residential and commercial areas.
- Make new green space a priority in neighborhoods with limited or no access to parks.
- Enhance the safety of green space by providing high quality lighting and regular maintenance, and by creating spaces that attract a steady flow of people, such as community gardens and courtyards in housing developments.
- Create new green space by converting vacant land and abandoned buildings into parks.
- Develop community-use and joint-use agreements between city and county governments and local school districts to increase residents' access to recreation facilities.
- Conserve water by using climate-appropriate landscaping.
- Ensure that city/county owned and operated green space is smoke-free.

## Resources

### Policy Briefs

- Local Government Commission: Center for Livable Communities. *Land use planning for safe, crime-free neighborhoods*. [http://www.lgc.org/freepub/docs/community\\_design/focus/plan\\_safe\\_neighborhoods.pdf](http://www.lgc.org/freepub/docs/community_design/focus/plan_safe_neighborhoods.pdf)
- PolicyLink. (2006). *Safety, growth, and equity: Parks and open space*. [http://www.policylink.org/documents/Infrastructure\\_Equity\\_Parks\\_final.pdf](http://www.policylink.org/documents/Infrastructure_Equity_Parks_final.pdf)
- Trust for Public Land (2006). *The health benefits of parks: how parks help keep Americans and their communities fit and healthy*.

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- Giles-Corti, B., et al. (2005). Increasing walking: how important is distance to, attractiveness, and size of public open space? *American Journal of Preventive Medicine*, 28(2), 169-176.
- Maas, J. et al. (2006). Green space, urbanity, and health: how strong is the relation? *Journal of Epidemiology & Community Health*, 60, 587-592.
- Mitchell, R. & Popham, F. (2008). Effect of exposure to natural environment on health inequalities: an observational population study. *Lancet*, 372, 1655-1660.

### Websites

- Los Angeles Neighborhood Land Trust: <http://www.lanlt.org/>
- Trust for Public Land: <http://www.tpl.org/>

### 3. Public Transportation Choices – A strong local public transportation system that connects to regional transportation helps create healthy and active communities.

A variety of local public transportation choices (bus, rail, subway) decreases reliance on automobiles and makes it possible to be mobile regardless of age or ability level. Walking/bicycling to and from public transit stops can help residents meet recommended levels of physical activity. Use of public transportation also improves local air quality by putting fewer cars on the roads.

#### Desirable Elements of Public Transportation:

- Increase the quantity, quality and frequency of affordable public transportation.
- Provide sufficient park-and-ride lots, bicycle racks and lockers at transportation hubs.
- Ensure safety at transportation hubs and park-and-ride lots through security monitoring, adequate street lighting, and landscape design that prevents crime.
- Provide adequate bike racks on buses to meet cyclists' needs.
- Provide a variety of local transportation options that connect to a larger regional transportation network.
- Provide incentives for employees to use public transportation (e.g. subsidized fares, flexible work schedules).
- Create transit-oriented housing along bus/rail/subway corridors to facilitate use of public transportation.

### Resources

#### Policy Brief

- Active Living by Design. *Transportation factsheet*. [http://www.activelivingbydesign.org/sites/default/files/Transportation\\_Factsheet.pdf](http://www.activelivingbydesign.org/sites/default/files/Transportation_Factsheet.pdf)
- Local Government Commission: Center for Livable Communities. *New thinking for a new transportation age*. [http://lcc.org/freepub/docs/community\\_design/focus/new\\_transportation\\_age.pdf](http://lcc.org/freepub/docs/community_design/focus/new_transportation_age.pdf)
- Southern California Association of Governments. (2008). *Regional transportation plan: making the connections*.

#### Journal Articles

- Besser, L.M. & Dannenberg, A.L. (2005). Walking to public transit: steps to help meet physical activity recommendations. *American Journal of Preventive Medicine*, 29(4), 273–280.
- Friedman, M.S. et al. (2001). Impact of changes in transportation and commuting behaviors during the 1996 summer Olympic games in Atlanta on air quality and childhood asthma. *Journal of the American Medical Association*, 285(7), 897-905.
- Lachapelle and Frank (2009) Transit and Health: Mode of Transport, Employer-Sponsored Public Transit Pass Programs, and Physical Activity. *Journal of Public Health Policy*, 30, S73-S94
- Wener, R.E. & Evans, G.W. (2007). A morning stroll: levels of physical activity in car and mass transit commuting. *Environment and Behavior*, 39(1), 62-74.

#### Websites

- Southern California Association of Governments: <http://www.scag.ca.gov>
- Surface Transit Policy Project of California: <http://www.transact.org/ca/>

#### 4. Affordable Housing – Affordable housing (i.e. spending no more than 30% of one's income) enables diverse residents to share community resources such as schools, businesses, and libraries.

Safe and affordable housing is a fundamental need that has profound implications for health. Lack of safe housing contributes to injuries, asthma, lead poisoning, other toxic exposures, and chronic stress. Lack of affordable housing can also produce severe stress and adverse mental health impacts, and takes resources away from other health-related needs (e.g., health care, food security, and leisure time for physical activity). Lack of affordable housing also harms the local business community, hindering workforce recruitment and driving out potential employers.

##### Desirable Elements of Affordable Housing:

- Create a variety of housing options (apartments, condominiums, single family homes) so that people of all income levels can meet their housing needs.
- Create sufficient workforce housing so that people working in a community can afford to live there.
- Locate affordable housing throughout a city to increase access to resources, reduce residential segregation by income, and provide residents with neighborhood choice.
- Locate affordable housing close to transportation hubs, retail, and employment centers and zone for a mix of uses near transit.
- Ensure that affordable housing includes green space, playgrounds, and walking paths.
- Avoid siting new housing within 500 feet of freeways and high-traffic roads if possible; otherwise disclose potential health risks to future site occupants.
- Ensure that housing constructed on previously contaminated land is safe.
- Provide high quality, well maintained housing that prevents exposure to indoor air pollutants, allergens, and toxins.
- Design housing for universal access to accommodate a range of needs, including the elderly and disabled.

#### Resources

##### Policy Briefs

- California Environmental Protection Agency and California Air Resources Board. (2005). *Air quality and land use handbook: a community health perspective*. <http://www.arb.ca.gov/ch/landuse.htm>
- Enterprise Community Partners and the Center for Housing Policy. (2007). *The positive impacts of affordable housing on health: a research summary*. [http://www.nhc.org/pdf/chp\\_int\\_summary\\_hsglth0707.pdf](http://www.nhc.org/pdf/chp_int_summary_hsglth0707.pdf)
- Livable Places. (2008). *Affordability matters: a look at housing construction and affordability in Los Angeles*. <http://www.livableplaces.org/housing>
- PolicyLink. (2004). *Building stronger communities for better health*. <http://www.policylink.org/pdfs/JointCenter-Communities.pdf>
- Southern California Association of Governments. (2008). *Regional comprehensive plan, land use and housing chapter*.

##### Journal Articles

- Anderson, L. et al. (2003). Providing affordable family housing and reducing residential segregation by income. *American Journal of Preventive Medicine*, 24(3S), 47-67.
- Bratt, R.G. (2002). Housing and family well-being. *Housing Studie*, 17(1), 13-26.
- Hood, E. (2005). Dwelling disparities: how poor housing leads to poor health. *Environmental Health Perspectives*, 111(5), A310-A317.
- Krieger, J. & Higgins, D. (2002). Housing and health: time again for public health action. *American Journal of Public Health*, 92(5), 758-768.
- Shaw, M. (2004). Housing and public health. *Annual Review Public Health*, 25: 397-418.

##### Websites

- National Housing Conference: <http://www.nhc.org/>
- Center for Housing Policy: <http://www.nhc.org/housing/chp-research/> and <http://www.housingpolicy.org/>

## 5. Air Quality – Residents in communities with clean air breathe easier and live healthier.

Exposure to air pollution increases rates of asthma, respiratory disease, pre-term births, birth defects, school absences and lost work days, and deaths from heart disease and cancer. Poor air quality is caused by air pollutants from stationary sources (e.g. manufacturing and industrial facilities) and mobile sources (e.g. automobiles), and includes exposure to noxious substances such as diesel exhaust, ozone, nitrogen oxides, carbon monoxide, and particulate matter. Key strategies to reduce exposure to air pollution are to decrease our dependence on automobiles; improve emission standards for vehicles, ships and industries; as well as separate housing, schools and other sensitive land uses from sources of pollution.

### Strategies for Reducing Exposure to Air Pollution:

- Reduce emissions from the Ports of Long Beach and Los Angeles by implementing the Clean Air Action Plan and other “clean, green” efforts.
- Support policies that reduce emissions of pollutants from stationary and mobile sources such as industrial facilities, cars, trucks, trains, and ships.
- Separate schools, playgrounds, residences and other sensitive sites from pollution sources such as freeways, rail yards, ports, refineries and distribution centers.
- Install mitigation measures (filtration systems, landscaping barriers, etc.) to reduce the negative impact of exposure to airborne toxins at existing sensitive sites near pollution sources.
- Encourage ridesharing, public transportation use and use of alternative fuel, low-emission vehicles to reduce vehicle miles traveled.

## Resources

### Policy Briefs

- Cal State Fullerton. (2008). *The benefits of meeting federal clean air standards in the South Coast and San Joaquin Valley Air Basins.* <http://business.fullerton.edu/centers/jees/reports/Benefits%20of%20Meeting%20Clean%20Air%20Standards.pdf>
- California Air Resources Board & American Lung Association of California. (2007). *Health effects of PM and ozone air pollution fact sheet.* [http://www.arb.ca.gov/research/health/fs/pm\\_ozone-fs.pdf](http://www.arb.ca.gov/research/health/fs/pm_ozone-fs.pdf)
- South Coast Air Quality Management District. (2005). *Guidance document for addressing air quality issues on general plans and local planning: A reference for local governments within the South Coast Air Quality Management District.* [http://www.aqmd.gov/prdas/aqguide/doc/aq\\_guidance.pdf](http://www.aqmd.gov/prdas/aqguide/doc/aq_guidance.pdf)

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- Balmes, J.R., et al. (2009). Exposure to traffic: Lung function and health status in adults with asthma. *Journal of Allergy, Asthma, and Immunology*, 123, 626-631.
- Brooke, R.D., et al. (2004). Air pollution and cardiovascular disease: a statement for healthcare professionals from the expert panel on population science of the American Heart Association. *Journal of the American Heart Association*, 109, 2655-2671.
- Delfino, R.J., et al. (2009). Repeated hospital encounters for asthma in children and exposure to traffic-related air pollution near the home. *Annals of Allergy, Asthma, and Immunology*, 102, 138-144.
- Gauderman, W.J., et al. (2007). Effect of exposure to traffic on lung development from 10 to 18 years of age; a cohort study. *Lancet*, 369(9561), 571-577.
- Jerrett M., et al. (2009). Long-Term Ozone Exposure and Mortality. *New England Journal of Medicine* 360, 1085-1095.

### Websites

- California Environmental Protection Agency Air Resources Board: <http://www.arb.ca.gov>
- South Coast Air Quality Management District: <http://www.aqmd.gov>



## 6. Food Environment – Communities with access to affordable, healthy food choices promote healthy eating.

Many county residents live in communities with limited access to affordable, high-quality produce and with an overabundance of unhealthy food options. Efforts to reduce the obesity epidemic and associated chronic disease will require efforts to create more healthful food environments.

### Desirable Elements of the Food Environment:

- Attract businesses that sell affordable and healthy food to communities which need them, including supermarkets, neighborhood markets, produce stores, and farmers' markets.
- Provide opportunities to buy locally grown produce at farmers' markets, local markets and through community-farmer partnership agreements.
- Dedicate open space for community gardens.
- Limit the number of liquor stores in communities.
- Provide incentives to improve produce options and other healthy food choices at corner convenience stores and mobile food trucks.
- Limit unhealthy food options in fast food and other restaurants and promote reasonable portion sizes.

## Resources

### Policy Briefs

- Center for Food and Justice, Urban and Environmental Policy Institute. (2008). *Fresh food distribution models for the greater Los Angeles region*. [http://departments.oxv.edu/uepi/publications/TCE\\_Final\\_Report.pdf](http://departments.oxv.edu/uepi/publications/TCE_Final_Report.pdf)
- Community Redevelopment Agency of the City of Los Angeles. *Market opportunities: Incentives for food retailers*. [http://www.crala.net/internet-site/Development/upload/Market\\_Opportunities\\_08.pdf](http://www.crala.net/internet-site/Development/upload/Market_Opportunities_08.pdf)
- PolicyLink. (2007). *Grocery store attraction strategies: A resource guide for community activists and local governments*. [http://www.policylink.org/documents/groceryattraction\\_final.pdf](http://www.policylink.org/documents/groceryattraction_final.pdf)
- PolicyLink. (2005). *Healthy food, healthy communities: Improving access and opportunities through food retailing*. <http://www.policylink.org/pdfs/HealthyFoodHealthyCommunities.pdf>

### Journal Articles

- Laraia, B.A. et al. (2004). Proximity of supermarkets is positively associated with diet quality index for pregnancy. *Preventive Medicine*, 39, 869-875.
- LaVeist, T.A. & Wallace Jr, J.M. (2000). Health risk and inequitable distribution of liquor stores on African American neighborhood. *Social Science and Medicine*, 51(4), 613-617.
- Morland, K. et al. (2002). The contextual effect of the local food environment on residents' diets: The atherosclerosis risk in communities study. *American Journal of Public Health*, 92(11), 1761.

### Websites

- Center for Food and Justice, Urban and Environmental Policy Institute: <http://departments.oxv.edu/uepi/cfj/index.htm>

## 7. Environmental Stewardship – Protection of natural resources and mitigation of environmental hazards improve community health and sustainability.

Improving and maintaining the integrity of natural resources, reducing greenhouse gas emissions, practicing water and energy conservation, and reducing and properly disposing of hazardous waste, are necessary at the individual, city, county, state, and federal levels to make a lasting positive impact on the environment.

### Desirable Elements of Environmental Stewardship:

- Promote “reduce, reuse, recycle” principles to reduce solid waste in landfills as well as household and commercial hazardous waste.
- Institute environmentally preferred purchases among public and private entities, such as “green” carpets, paper products, office and janitorial supplies.
- Promote product stewardship among manufacturers to redesign and take back products at the end of life (e.g. cell phones, printers, batteries) to reduce their health and environmental impacts.
- Protect the ecosystem and water quality through use of low impact development principles designed to manage urban and storm water runoff, such as landscaping methods and recycling facilities.
- Practice water conservation such as drought-tolerant landscaping and promoting decreased public and private use of water.
- Promote energy efficiency by constructing new buildings using “green” building standards, retrofitting older buildings, and promoting energy efficient light bulbs and appliances.

## Resources

### Policy Briefs

- County of Los Angeles. (2009). *County of Los Angeles low impact development standards manual*. [http://planning.lacounty.gov/assets/upl/project/green\\_la-county-lid-manual.pdf](http://planning.lacounty.gov/assets/upl/project/green_la-county-lid-manual.pdf)
- PolicyLink. (2008). *Understanding climate change: an equitable framework*. [http://www.policylink.org/documents/climatechange\\_final.pdf](http://www.policylink.org/documents/climatechange_final.pdf)

### Journal Articles

- Dwight, R.H. et al. (2002). Association of urban runoff with coastal water quality in Orange County, California. *Water Environment Research*, 74(1), 82-90.
- Patz, J.A. et al. (2005). Impact of regional climate change on human health. *Nature*. 2005, 438, 310-317.
- Ross, S. & Evans, D. (2003). The environmental effect of reusing and recycling a plastic-based packaging system. *Journal of Cleaner Production*, 11(5), 561-571.

### Websites

- US Green Building Council (LEED certification): <http://www.usgbc.org/DisplayPage.aspx?CategoryID=19>
- City of Santa Monica: Sustainable City progress report: <http://www01.smgov.net/epd/sepr/index.htm>
- Environmental Working Group: <http://www.ewg.org>

Additional Planning Principles

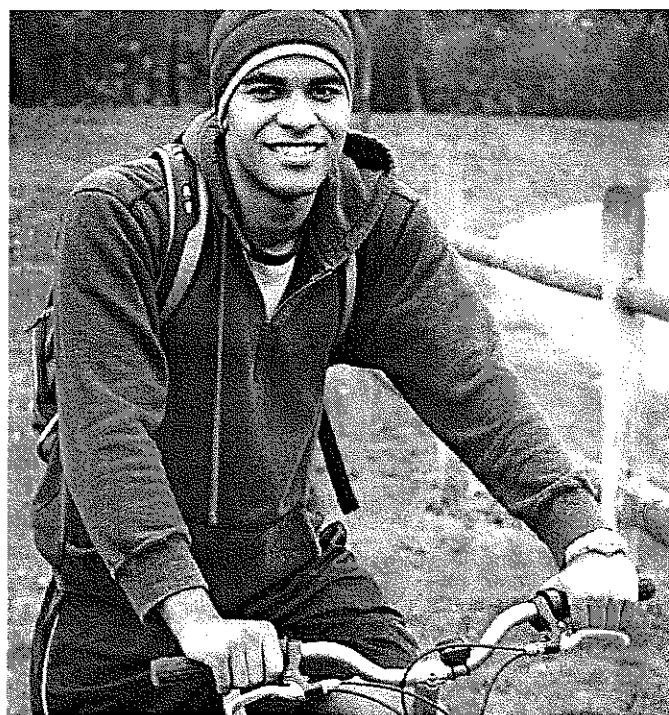
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- NACCHO and the Tri-County Health Department. 2003. Checklist: Public Health in Land Use Planning and Community Design.  
<http://www.naccho.org/>
- National Association of Local Boards of Health. 2006. Land Use Planning for Public Health: The Role of Local Boards of Health in Community Design and Development.  
<http://www.nalboh.org/>
- Smart Growth Network. Principles of Smart Growth.  
<http://www.smartgrowth.org/about/principles/default.asp>
- City of Los Angeles Urban Design Studio. Urban Design Principles.  
<http://urbandesignla.com/index08.htm>

# Designing for Active Living Among Adults

SPRING 2008 | RESEARCH SUMMARY

In the U.S., physical inactivity is a major contributing factor to the obesity epidemic. An abundance of research shows that regular physical activity supports overall health and helps adults maintain a healthy weight. Research also indicates that the design of our cities, neighborhoods and transportation systems can make it difficult for adults to be physically active. The absence of parks, trails and other recreational facilities, which is a significant issue for residents of low-income neighborhoods and communities of color, also is a barrier to physical activity.<sup>1</sup> Health, recreation and planning professionals, as well as public officials, are aware of the impact the environment has on our ability to be physically active and are increasingly looking for ways to design communities to encourage and promote physical activity for adults.

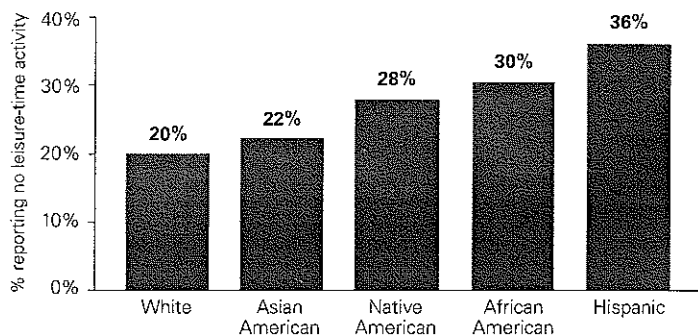
This research summary provides a synopsis of peer-reviewed research into the connection between the built environment—the man-made surroundings that provide the settings for physical activity—and physical activity levels among adults. It also explores the environmental factors that support physical activity for both transportation and recreational purposes and examines disparities based on income and race/ethnicity. The research identifies potential strategies for increasing physical activity and reducing obesity among adults and may help to inform the debate concerning policies and practices that support a more physically active adult population. A companion research summary outlines similar findings for children and adolescents.



**Most American adults are sedentary, and Hispanic and African-American populations report the least amount of physical activity.**

Health officials recommend that adults accumulate at least 30 minutes of moderate to vigorous physical activity throughout the day to maintain good health.<sup>2</sup> Yet according to the 2005 U.S. Centers for Disease Control and Prevention's (CDC) national Behavioral Risk Factor Surveillance System survey, only 49 percent of U.S. adults meet that recommendation.<sup>3</sup> The survey, which analyzed self-reported data collected from 1990 and 2002, also found that more than one-third of the U.S. adult population reported no regular leisure-time physical activity, and that inactivity rates were highest among Hispanic and African-American populations.



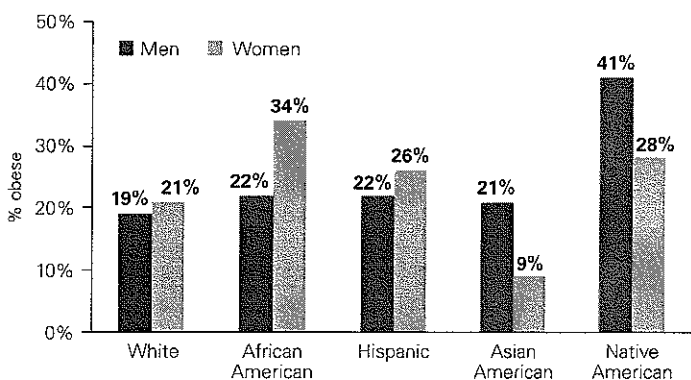
**Graph 1: Disparities among adults who report no leisure-time physical activity<sup>3</sup>**

There are even more sobering statistics about the lack of physical activity among U.S. adults. According to a recent analysis of accelerometer (electronic physical activity monitors) data from the 2003–2004 National Health and Nutrition Examination Survey (NHANES), less than 5 percent of adults meet the minimum guideline for physical activity.<sup>4</sup> It is important to note that individual levels of physical activity that are measured by accelerometer are dramatically lower than self-reported levels of physical activity. Thus, true physical activity levels most likely lie somewhere between the two estimates.

### **Declining rates of physical activity correspond with a dramatic rise in obesity.**

A review of physical activity patterns found that over the past five decades, energy expenditure related to work, transportation and household activities has declined, while sedentary habits such as screen time and automobile usage have increased. The result is an overall decline in physical activity levels among adults.<sup>5</sup> Likely contributors to the decline in physical activity include the growth of labor-saving devices in the home and workplace, suburbanization, an increase in miles traveled by vehicle and a growing trend toward more sedentary entertainment.

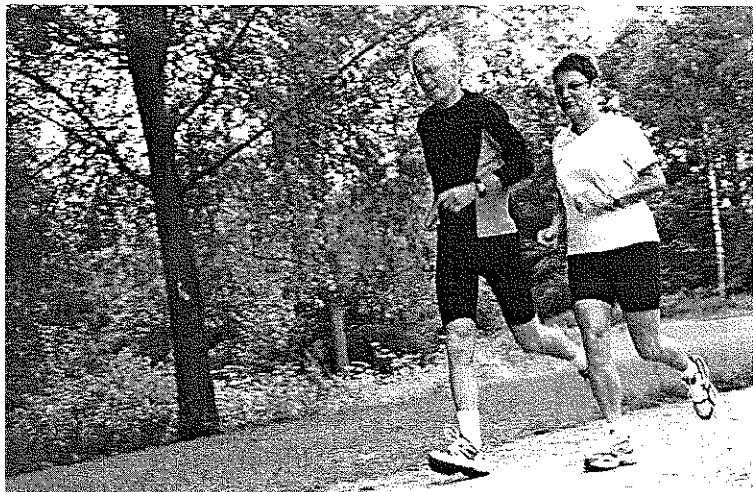
The decline in physical activity levels among U.S. adults has contributed to the dramatic rise in the percentage of Americans who are obese or overweight. Data show that the obesity prevalence among U.S. adults has increased from 13 percent in the early 1960s to 32 percent in 2004, and currently, 66 percent of U.S. adults are overweight or obese. As shown in Graph 2, the rates of obesity are highest among women, Native American, Hispanic and African-American populations.<sup>6</sup>

**Graph 2: Prevalence of obesity among adults ages 18 to 26<sup>6</sup>**

### **Neighborhood design is related to residents' physical activity levels—and their health.**

Engaging in physical activity is more than just a matter of personal choice, it is also affected by the built environment.<sup>7</sup> Community design—including the layout of neighborhoods and cities and the availability and proximity of transportation systems, parks and trails—can promote or inhibit residents' ability to be physically active and maintain a healthy weight. According to the CDC, creating, improving and promoting places to be physically active can result in a 25 percent increase in the percentage of residents who exercise at least three times per week.<sup>8</sup>

Though many of the societal trends that have led to a decrease in physical activity are unlikely to be reversed, research shows that changing specific aspects of the built environment may make it easier for adults to be physically active. The Transportation Research Board–Institute of Medicine<sup>9</sup> and the Task Force for Community Preventive Services<sup>10</sup> reviewed studies on physical activity and community design and concluded there is a consistent association between land use patterns and levels of physical activity. Both expert panels recommended policy changes in zoning, development regulations and transportation investments that would encourage the development of more walkable communities.



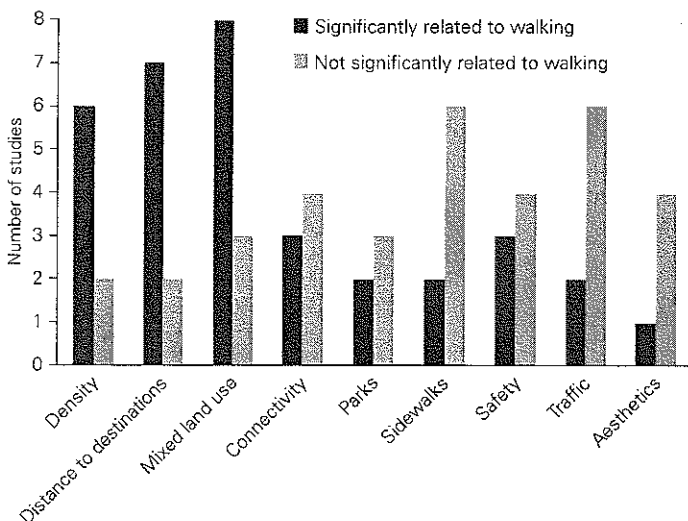
It is critical for the built environment to support physical activity, both for recreational and transportation purposes. There is a significant body of evidence linking transportation planning and community design to adult physical activity levels.

For example, according to a 2006 survey of 1,148 adults living in the southeastern U.S., the number of adults who met physical activity guidelines was 15 percent higher in neighborhoods with sidewalks.<sup>11</sup> Another study, which was based on objective accelerometer data collected from Atlanta residents, showed that 37 percent of adult residents who lived in the most walkable neighborhoods met physical activity guidelines, compared to just 18 percent of those who lived in the least walkable neighborhoods.<sup>12</sup>

An analysis of data collected from planning directors in 67 North Carolina counties and surveys of 6,694 residents, which was conducted in 2007, found higher levels of physical activity among residents of counties with more sidewalks, bike lanes and trails; more walkable mixed land use development; and strong planning policies. Residents of counties with active community environments were more than twice as likely to walk and bike for transportation, and among lower-income residents, this association was even stronger.<sup>13</sup>

As illustrated by Graph 3, a recent review of 17 studies published in 2005–2006 found that walking for transportation was most strongly related to living in neighborhoods with high residential density, mixed land use and short distances to destinations.<sup>14</sup>

**Graph 3: Number of studies with neighborhood characteristics related to walking<sup>14</sup>**



There are similar findings showing that built environment characteristics are related to physical activity among older adults. Older adults who live in neighborhoods with many destinations within walking distance and who live near parks and other recreation facilities with favorable aesthetics are more physically active than older adults who lack these resources.<sup>15</sup>

### **Communities that support physical activity have lower rates of obesity.**

Evidence shows that the built environment is not only related to levels of physical activity, but it also may have a significant impact on obesity rates. A widely publicized study of 448 metropolitan counties conducted in 2003 found that people who lived in compact, higher-density counties walked more and were less likely to be obese and hypertensive than people who lived in more sprawling counties.<sup>16</sup> Since then, many other studies have linked the built environment with risk of overweight and obesity.

According to a study conducted in 2004 that involved 18,386 Atlanta area residents, those who lived in the most walkable neighborhoods were 35 percent less likely to be obese than were residents who lived in the least walkable areas. Findings also indicated that for each additional hour of driving per day, residents' obesity risk increased by 6 percent.<sup>17</sup> Another study, which analyzed data from 33 California cities in 2006, confirmed that the obesity rate among adults who drove the most was 27 percent, which is about three times higher than the obesity rate (9.5 percent) among those who drove the least.<sup>18</sup>

### **Changing the built environment can increase physical activity.**

In addition to the many studies showing an association between physical activity levels and the built environment, there is a significant body of research that examines how specific changes to the built environment can increase physical activity levels. For example, a recent review of studies on initiatives to promote physical activity conducted by Britain's National Institute for Health and Clinical Excellence (NICE) concluded that when trails, traffic calming, cycling infrastructure, road restrictions and charging for road use are introduced into communities, levels of physical activity increase.<sup>19,20,21</sup> According to seven studies conducted across the United Kingdom, introducing protected cycling lanes in both urban and rural areas leads to long-term increases in cycling levels.<sup>19</sup> Opening new sections of cycling trails in or near cities also resulted in increases in cycling on three routes of the National Cycle Network from 1998 to 2001, by 43 percent, 50.1 percent and 29.7 percent, respectively.<sup>22</sup>

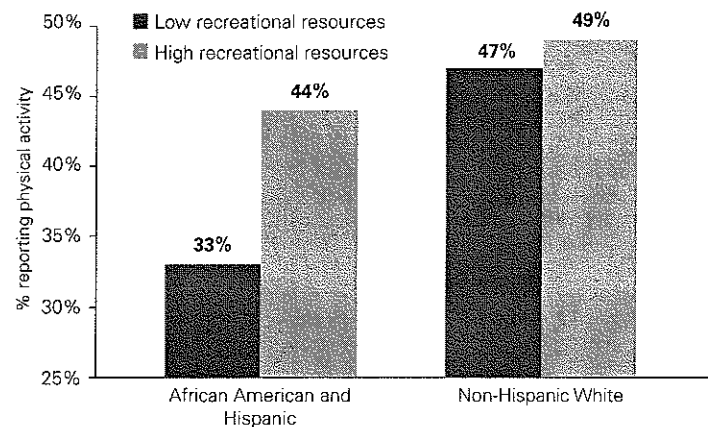


### **Proximity to recreation facilities encourages physical activity, especially among adults living in low-income communities.**

Research indicates that adults who live near recreation facilities or have aesthetically pleasing places in which to be active engage in more recreational physical activity.<sup>14,15</sup> For example, a study conducted in 2007 revealed that residents who lived within one mile of a park reported 38 percent more exercise sessions and were four times more likely to visit the park at least once per week than were residents who lived further away. The researchers analyzed data collected from 713 park users and 605 residents who lived in predominantly low-income neighborhoods with a high concentration of Hispanic and African-American residents. The communities were located near eight public parks in Los Angeles.<sup>28</sup>

A study of 2,723 adult residents living in New York City, Baltimore and Forsyth County, North Carolina, found that adults were 28 percent more likely to participate in recreational activities if there were parks and recreation facilities located within five miles of their home. As shown by Graph 4, analyses also indicated that having recreational resources within one mile from home was associated with significantly higher physical activity levels among Hispanic and African-American adults.<sup>29</sup>

**Graph 4: African-American and Hispanic adults are more likely to be physically active when they have many recreational resources within one mile of home<sup>29</sup>**



Another study, which collected data from 1,194 residents of low socioeconomic status (SES) neighborhoods in the southeastern U.S., found that residents who had access to a nearby trail were three times as likely to walk for 150 minutes per week than were residents who had no access to a trail. There was no evidence to support this relationship among high SES residents.<sup>30</sup>

Several U.S. studies show that multi-use trails provide walkers and cyclists with opportunities for both active recreation and transportation. Findings indicate that introducing these trails may promote physical activity, especially among previously inactive persons. For example, researchers surveyed users of recently constructed trails in a rural West Virginia community in 2004 and found 98 percent of respondents reported that they had been inactive before the trails were created. Results also showed that about 25 percent of trail users started engaging in regular exercise (three or more times per week) after the trails' development.<sup>23</sup>

Other studies indicate that the placement of trails is critical, and document better use when trails are built near population centers or link desirable destinations.<sup>24</sup> Introducing trails also can be a relatively cost-effective way to increase physical activity levels in a community. A study in Lincoln, Nebraska, found that the cost of building and maintaining trails equals about \$98 annually for each new person who uses them and engages in physical activity at least three times per week.<sup>25</sup>

Traffic calming—slowing vehicle speeds through such measures as installing speed bumps and narrowing roads—also supports physical activity among adults. Evidence from five studies in the United Kingdom suggests that traffic calming devices improved feelings of safety and comfort and were associated with increases in walking and cycling.<sup>19</sup> A study conducted in 2004 among 436 residents of a low-income housing development in North Carolina found that 20 percent of adults walked more after the installation of traffic-calming devices.<sup>26</sup>

A number of other changes to the built environment—including low-cost strategies—can affect physical activity levels among community residents. Numerous studies have shown that placing signs in building entrances or adding lighting and decoration to dark stairwells increases the number of people who use the stairs.<sup>27</sup>



According to a study of 1,180 predominantly Hispanic and African-American adults living in urban low-income housing projects in the Boston area, neighborhood safety may have a significant impact on residents' physical activity levels. Women who reported their neighborhood as unsafe took 4,302 steps per day, while women who reported their neighborhood as safe took 5,178 per day, a 20 percent difference.<sup>31</sup>

### **Low-income neighborhoods and communities of color are less likely to have access to activity-friendly environments.**

Can disparities in access to recreation facilities and walkable neighborhoods explain the lower levels of physical activity that are reported by residents of low-income areas and communities of color? Though there is insufficient data to answer this question with certainty, inequalities in access to activity-friendly environments have been documented.

For example, three national studies conducted in the U.S. analyzed objective geographic information systems and found that neighborhoods with high concentrations of Hispanic and African-American populations or high concentrations of low-income residents were less likely to have public parks and private recreation facilities.<sup>32,33,34</sup> A study of Maryland, New York and North Carolina communities in 2007 had similar findings.<sup>35</sup> Seventy percent of predominantly African-American neighborhoods and 81 percent of predominantly Hispanic neighborhoods did not have recreation facilities, compared to 38 percent of predominantly white neighborhoods. Wealth was a factor as well: 74 percent of the poorest neighborhoods did not have recreation facilities, compared to 46 percent of the wealthiest neighborhoods. Access to public parks was more equitably distributed among income groups.

There is some evidence to suggest that residents of low-income areas may not be able to take full advantage of walkable neighborhoods. In 2008, an analysis of 73 neighborhoods in Austin, Texas, that had high proportions of Hispanic residents showed common indicators of walkability were better in the low-income areas, including connected streets, mixed land use and extent of sidewalks. Direct observations by researchers, however, revealed that the low-income areas had less aesthetic appeal, poorer maintenance, lower safety, higher rates of crime and more vehicle crashes.<sup>36</sup> These findings demonstrate that residents of low-income neighborhoods may have unique barriers that prevent physical activity, even when some features of their built environment support active transport.

## **Conclusions**

- > Changes in motorized travel, the built environment and an increasing reliance on sedentary entertainment have decreased opportunities for adults to be physically active, and the declining levels of physical activity have contributed to the obesity epidemic.
- > The majority of U.S. adults do not meet the recommended physical activity guidelines, and two-thirds of U.S. adults are overweight or obese, with the highest obesity rates among Native Americans, African Americans, Hispanics and women.
- > Expert evaluations conclude that adults who live in walkable neighborhoods are more physically active and indicate that land use policy should be considered an important public health issue.
- > A significant body of research shows that obesity rates are higher among adults who drive the most and live in low-walkable neighborhoods.
- > Introducing sidewalks, bike trails and traffic calming devices can lead to increased physical activity.
- > Walking for transportation is consistently related to having many destinations near homes, connected streets and high residential density.
- > People who live in walkable neighborhoods and have nearby recreation facilities are more likely to have higher levels of physical activity and to meet daily guidelines for physical activity. This relationship may be strongest among adults who live in low-income neighborhoods and communities of color.
- > People living in low-income areas and communities of color have less access to recreation facilities, and face unique environmental challenges that may make it difficult for them to engage in regular physical activity. Additional research is needed to develop strategies for increasing physical activity levels among these populations.



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Active Living Research, a national program of the Robert Wood Johnson Foundation, stimulates and supports research to identify environmental factors and policies that influence physical activity for children and families to inform effective childhood obesity prevention strategies, particularly in low-income and racial/ethnic communities at highest risk. Active Living Research wants solid research to be part of the public debate about active living.

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